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THE SOCIAL AND ECONOMIC RETURNS FROM INVESTMENTS IN FOREST MANAGEMENT PROGRAMS ON INDIAN LANDS -- TWO CASE STUDIES

By
Allen Hopwood*

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FOREWORD

This report is a summarized version of The Social and Economic Returns from Investments in Forest Management Programs on Indian Lands in Canada --Two Case Studies originally prepared for the Federal Lands Forestry Branch of the Canadian Forestry Service, Ottawa in March, 1988. The advice and assistance of the CFS's Mr. Bob Woods and Dr. Glenn Manning are gratefully acknowledged.

ABSTRACT

The social and economic returns from investments in two Indian Bands' forestry programs are documented in order to demonstrate the offsetting rather than incremental nature of investments in long-term forest management programs involving Indian people. A benefit/cost analysis using a documentation approach is presented and referenced to the three involved groups: the particular Band, the provincial government and the federal government. Results indicate that currently only a fraction of the overall economic and social returns from Indian forestry programs accrues to Indians and that Bands must initiate, develop and control their own forestry programs if they are to be successful. Recommendations are provided to facilitate Indian forestry programs and enhance their socio-economic returns to Indian people.

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PART I - INTRODUCTION

A. RATIONALE AND PURPOSE

Forestry has been identified by Indian organizations at all levels as an economic development priority because:

- The land-use capabilities and geographic situations of many of Canada's Indian Bands are forestry oriented--economically speaking, forestry is often "the only game in town";

- Many Bands have an existing base of experience in forestry upon which to build--cultural ties to the forest and Band members with employment experience in the forest industry;

- Intensive forest management is labour intensive;

- Forest development and conservation tie in well with the integrated approach to renewable resource management favoured by most Indian Bands;

- Future demand for forest products is expected to be strong.

This study not only provides hard data on social and economic returns from forest management based on two "real-life" situations, it also sets out methodology and systems for use as decision-making tools suited to the broad and varying circumstances of forest lands held by Indian Bands.

The study's purpose was to demonstrate the offsetting, rather than incremental, nature of investments in long-term forest management relative to federal government and Indian government spending on other economic development, health and social welfare programs involving Indian people.

The work undertaken in this project was aimed at providing data and methods for overcoming the obstacles to adoption and implementation of comprehensive, long-term Indian forestry programs.

B. BACKGROUND

Before launching into a detailed analysis on forestry as it relates to Indian Bands, it is necessary to become familiar with some background information on the subject.

1. The Indian Forestry Situation at the National Level

Productive forest lands on Indian Reserves in Canada total 1.3 million hectares (3.2 million acres). These forest lands are the base for many renewable resources and they represent a major opportunity for social and economic development.

The Indian Act refers and applies only to the harvesting of timber, not to the management of forest lands on the Reserves. So, despite the fact that many Indian communities are in localities where forestry is a leading economic sector, half the area of Indian Reserves outside the Territories is productive forest land, and almost all traditional Indian land uses are or can be influenced by forest management practices, Indian and Northern Affairs Canada (INAC) has no program, mandate, budget or reporting specific to forestry.

Until recently, much of the Indian forest resource has been severely mismanaged, suffering from overcutting, lack of reforestation and inadequate site tending. Compounding this has been the lack of involvement by the Indian people (except in the case of timber harvesting) due to the way the trust responsibility of the federal government has been implemented. Recognition of this problem has resulted in INAC's policy of transferring control of economic and social development to the Indian people themselves.

To support this change in policy, federal government job creation programs have begun to direct funding towards employment and training projects on and off Indian lands and several of the current Federal-Provincial Forest Development Agreements[1] have designated funds specifically for Indian forestry development. These efforts are not comprehensive (i.e., they have restrictions related to the types and costs of projects), they do not provide the continuity required in proper forest management, and their eligibility requirements sometimes mitigate against Indians.

2. The Indian Forestry Situation in British Columbia

There are 196 Indian Bands in B.C. holding 1,606 Indian Reserves with a total area of 337 000 ha. Because of the geographic locations of the Reserves and their resident populations, as well as the overwhelming orientation of economic potential toward integrated renewable resource development, the Bands have begun to focus their socio-economic development strategies on

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1. Administered on the federal government's behalf by the Canadian Forestry Service.

the management of their forest lands. Approximately 57% of their total land base is classed as productive forest lands, as they will produce commercial crops of timber within a "reasonable time period" (in line with provincial Ministry of Forests standards). The productivity of the coastal Reserve forest land, in terms of tree growth, is well above average compared to B.C. as a whole, while the interior Reserves are below average.

Mature and older immature forest lands comprise about 50% of the forest base. This figure is misleading since much of the timber on these lands is extremely poor in quality and/or of marginal economic viability. The state of the immature forests (30%) is even worse: the Indian Act provides for harvesting but not reforestation (government funding has not provided for seedling costs). Until the advent of large government forestry job creation projects in 1982, there was almost no tending of Indian forests. Large portions of the Reserves' immature forests should actually be classed as not satisfactorily restocked (NSR) because they are composed of non-commercial cover. If they were properly reclassified, the currently accepted NSR figure of 13% would approach 25%.

B.C.'s FRDA Indian Forest Lands Program was set up in 1985 and is administered directly by the CFS in Victoria. The funding provided by this program has resulted in completion of inventories and management plans for about 50% of the Reserve land in B.C. as of March 31, 1988. These management plans document excessive timber exploitation in the past and emphasize rehabilitation in the future. The FRDA can provide up to 80% of rehabilitation costs for these degraded forests, with the Bands obligated to provide the balance from their own finances or other government sources.

On a sustained yield basis of operation, if all the operable forest lands on the Reserves in B.C. were under management, they could produce an Allowable Annual Cut (AAC) of 400 000 m^3, even if management practices were at the most basic level (i.e., reforestation was assured within a reasonable time period after harvesting and the resulting young forests were weeded, if necessary, until they reached a "free-to-grow" stage).

Currently, B.C.'s Indian Bands receive little economic return for their timber because of their limited involvement in the manufacturing side of the forest industry and because most of the logging on the Reserves is done by outside operators. The Bands' net revenues from harvesting are limited to the profits from the sale of logs, to stumpage paid to and held in trust for them by the federal government, and wage and contract payments earned by individuals from harvesting and, perhaps, tree planting.

The province's Woodlot Licence[2] program provides a notable but limited opportunity for some Bands to expand their forest development programs.

Employment of Indians in the forest sector, both on and off Reserve, is small. Even where Band-owned or Band member-owned companies carry out their own harvesting and forest tending, up to 50% of the workers are non-Indians due to the shortage of applicable expertise/education. Many of the Indians working in the forest industry are participating through government-sponsored job creation and training programs. These projects rarely provide the continuity, experience, approach, training, motivation or working conditions necessary to prepare the participants for a "real" job.

The past mismanagement of the Indian forest resource has created a tremendous opportunity for future employment in rehabilitating this resource. Such rehabilitation would lay the foundation for an increased, sustainable future harvest.

C. METHODOLOGY

Systems for analysing forestry-related economic impacts, in particular, and social impacts to a lesser extent, are fairly well defined in Canada, especially on a macro-scale. Here the approach has been to re-orient these systems to the Indian forestry situation and, as much as possible, refine them to recognize the unique federal government/Indian people relationship (i.e., the federal government's "trust responsibility" or legal obligation towards Indians) as well as the biological, geographic and social conditions pertaining to Indian lands.

Two Bands with a history of involvement in comprehensive forest management programs were enlisted to participate in the study. The idea was to use these two Bands as case studies demonstrating the social and economic returns from investment in forest management programs on Indian lands.

After consultation with a wide range of people involved in forestry programs on Indian lands in B.C., the Stuart Trembleur Lake Band and Coldwater Band were asked to participate in the study (see Figure I-1). There are several Bands in B.C. which could have participated, but these two were approached because of their involvement in comprehensive forest management programs, because they represent very different ecological regions of the province, because one is a

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2. A Woodlot Licence provides for the amalgamation of up to 400 ha of Crown provincial forest land with the holdings of a private citizen, company or Indian Band to form a more viable forest management unit.

FIGURE I-1. Map showing the locations of the Stuart Trembleur Lake Band and the Coldwater Band.

large-scale forestry operation while the other is quite small, and because Allen Hopwood was familiar to some extent with both. The study involved the following steps:

- Meet with the CFS Project Authority to clarify objectives, expected outputs, and uses to be made of the results;

- Meet with the Stuart Trembleur Lake Band, Tanizul Timber Ltd. (the business arm of the Stuart Trembleur Lake Band), and the Coldwater Band to explain the study, gain initial access to information, seek advice, and initiate baseline data collection;

- Prepare appropriate standardized approaches to social, economic and silvicultural data collection;

- Obtain advice from the University of B.C.'s Forest Economics and Policy Analysis group on data analysis;

- Collect baseline data on the Bands' social, economic and forestry situations prior to initiation of their comprehensive forestry operations;

- Collect and develop new data on the Bands' current socio-economic situations;

- Prepare and compile data for an analysis comparing costs and benefits (inputs and outputs) of Indian forestry programs;

- Prepare draft results and present them to the Bands and CFS;

- Revise as necessary;

- Prepare a final draft report addressing the study's objective and making recommendations for application elsewhere of the results, methods and systems;

- Incorporate the participants' comments into a final report;

- Ongoing consultation with the CFS.

At an early stage in the project it became apparent that the two Bands' periods of involvement in comprehensive forest management programs were too short to make totally valid comparisons of their socio-economic situations before and after their forestry programs

began.[3] It also soon became clear that the quantity and quality of the Bands' and INAC's socio-economic data made these data an insufficient basis for a traditional, "clean" benefit/cost analysis. Even extrapolation and projection, the economist's usual solutions to such a problem, were deemed to be too theoretical for a valid analysis.

It was decided with the Project Authority that these deficiencies themselves spoke volumes and that the study should still proceed on more or less the original course so as to draw whatever conclusions were possible, to develop an empirical framework for analysing the return from Indian forestry programs, and to at least develop baseline information and systems for future reference by governments and the Bands so that later work of this nature will have more to go on.

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3. This lack of a sufficient timeframe for in-depth socio-economic comparison applies to most Bands in B.C. because they only recently became involved in an array of forestry practices other than harvesting.

PART II - THE STUART TREMBLEUR LAKE BAND

A. GENERAL INFORMATION ABOUT THE BAND

On May 5, 1969, pursuant to Section 17 of the Indian Act, the Pinchi Band, Tache Band, Yacutcee Band, Grand Rapids Band and Trembleur Lake Band were amalgamated to form the Stuart Trembleur Lake Band.

The Stuart Trembleur Lake Band holds twenty Reserves and six villages located on the shores of Stuart and Trembleur Lakes. Tache, Pinchi and Portage are the three main villages but there are permanent or part-time residents on four other Reserves. All the populated Reserves are accessible by road.

In the late 1960s, the B.C. government built a rail line (now B.C. Rail) through seven of the Band's Reserves without Band approval. As part of the compensation which was eventually agreed upon in the early 1980s, the Band received clear title to certain Crown lands which are referred to as their "cut-off" lands. The Band's Reserves and cut-off lands total approximately 2000 ha in area; the parcels ranging in size from 4 to 850 ha.

The main village of Tache, located 65 km west of Fort St. James, the nearest town, is the administration and cultural centre. Approximately 70% of the Band's membership of 1,000 resides at Tache (73 families in 81 housing units). Tache is connected to B.C. Hydro and B.C. Telephone feeder lines, has a water service system, a waste water and sewage collection system, and a new school for grades from pre-school to Grade 9 (or Grade 12 if there are any students).

B. BAND ADMINISTRATION/LOCAL GOVERNMENT

The political and administrative affairs of the Band are conducted by a Council consisting of one Chief and eight Councillors elected by Band members according to Band custom. The day-to-day administration of the Band's affairs is carried out by a staff of 40 full-time and up to 15 part-time workers. For the fiscal year ending March 1987, the Band administration was responsible for a budget of about $2.4 million.

Since the late 1960s, the Band has administered and managed most of its own programs. Although the standard of living has increased dramatically since the 1970s, unemployment and dependence on Social Assistance programs remain high.

C. THE BAND'S SOCIO-ECONOMIC SITUATION

1. Putting the Study of the Band into Perspective

Meeting the purpose of this study required a comparison of the Band's socio-economic situation before, during implementation, and since embarking upon a full-scale forestry program, in order to evaluate costs and benefits as well as analyse impacts, effectiveness and progress in terms of the Band's and the federal government's objectives in these regards.

However, detailed data relevant to the Band's socio-economic situation have never been defined or described (wholly or in part) by either INAC or the Band. Compounding this problem is the fact that the Stuart Trembleur Lake Band has only a 5-6 year history of comprehensive involvement in forestry. (It must be kept in mind that despite this relatively short period of full-scale forestry involvement, the Band has one of the longer histories of Indian forestry activity in B.C.--in the broad sense, rather than simply harvesting timber.) This relatively short history in forestry and the poor socio-economic informational base have combined to make the traditional approach to benefit/cost analysis largely impossible.

Keeping these deficiencies and limitations in mind, it is still possible to use the Stuart Trembleur case as the basis for a less than academically acceptable analysis. The data which were collected, derived, estimated and then analysed will serve as benchmarks for more definitive and orthodox studies in the future. The results and recommendations of this study provide a clear direction for Indian and federal decision makers in terms of evaluating potential benefits and costs for proposed Indian forestry programs.

The information that follows is organized to compare the socio-economic situation prior to implementation of the Band's forestry program (pre-1981) with the situation in 1987.

2. The Band's Social Situation

The Band's administration concentrates on public services. Spending on economic development is minimal and has diminished considerably since 1980-1981 when economic activity focused on Tanizul Timber Ltd. Economic development and related job creation and training responsibilities for the Band have largely been transferred to the company. This has left the Band government to function in the areas of education, public works, health and social welfare.

a. Demography

The Band's population has been increasing at an average rate of 3% per year.

Table II-1 provides a detailed breakdown of the Band's population by age, sex and location (as derived from several sources). Whereas there were 584 Band members of working age (15-64 years) in 1986, this will increase to 900 by 1996. Such an increase presents a major challenge to the social and economic planners of the Band and all levels of government. The employment and social problems presented by this oncoming wave of young people will be exacerbated by the Band's geographic, social and educational drawbacks.

b. Education

The little information that exists on Band members' education shows that:

- The overall educational level of the Band is well below the provincial average and that of the local territory;
- There is a marked decline in school attendance after Grade 8;
- The amount of education received by Band members is slowly increasing, particularly at the technical level and in the area of continuing (adult) education.

c. Employment

Most work available is seasonal in nature. Lack of records specific to the Band makes it difficult to accurately chart employment. Table II-2 presents the Band's employment picture for Band members living on its Reserves. (The figures presented were developed through this study and do not necessarily agree with INAC or Band statistics.)

Employment of Band members living on the Reserves has increased substantially since 1982 due to "real" jobs provided by Tanizul's operation and government "created" (subsidized) jobs sponsored by Tanizul. Tanizul's two main contractors are separate companies owned and managed by Band members. Due to a lack of necessary skills, not all employees of these contractors are Band members.

TABLE II-1

DEMOGRAPHY

As of December 31, 1986

AGE GROUP (Years)	ON- and OFF-RESERVE Population by Sex M	F	Total	ON-RESERVE* Population by Sex M	F	Total	(On-Reserve)
0 - 4	66	42	108	54	35	89	(82%)
5 - 9	70	73	143	57	54	111	(78%)
10 - 14	69	68	137	47	56	103	(75%)
15 - 19	61	60	121	35	30	65	(54%)
20 - 24	56	59	115	31	27	58	(50%)
25 - 39	113	120	233	84	81	165	(71%)
40 - 54	38	37	75	28	16	44	(59%)
55 - 64	18	22	40	17	16	33	(82%)
65+	23	18	41	19	16	35	(85%)
All	**514**	**499**	**1,013**	**372**	**331**	**703**	**(69%)**
(On-Reserve)				(72%)	(66%)		
Official Band members	506	491	997	364	323	687	(69%)
Band's Own Count as of July/87			1,035	N/A	N/A	635	(61%)

* Five occupied Reserves.

TABLE II-2

EMPLOYMENT STATISTICS FOR ON-RESERVE BAND MEMBERS*

(Figures without brackets are full-time or full-time equivalent numbers of Band members; figures in brackets are part time.)

	1981	1986/87	1996 PROJECTED
On-Reserve Residents - Total	560	635	-
- Fit, Able, Looking to Work	116	148	180
- Employed, Full or Part Time			
- Band Administration	39+(15)	39+(16)	
- Carrier-Sekani Tribal Council	-	1	
- B.C. Rail	8	-	
- Tanizul Timber & Contractors	-	14+(13)	
- Public Works Contractors	(9)	(13)	
- Trapping, Guiding	(6)	(5)	
- On-Reserve Businesses	2	-	
- Local Sawmills	-	2+(2)	
Sub-Total: Employed	**49+(30)**	**56+(49)**	-
- Job Creation/Training (Tanizul)	-	(18)	-
Total: Employed and Job Created	**49+(30)**	**56+(67)**	-
- Full-time Job Equivalency (i.e., 12-mo./yr. basis)	55	70	115
- Unemployed: Full-time Equiv.	61	78	65
- Unemployment Rate (On-Reserve)	53%	53%	36%

* N.B. that these statistics have been adjusted to reflect an annual or 12-month basis of employment so they are, in effect, "seasonally adjusted" and they only relate to Band members living on the Reserves.

The increasing number of Band members entering the workforce has kept the unemployment rate relatively unchanged since 1981, despite a 27% increase in full-time employment. The Band's 1986-87 unemployment rate of 53% was four times the B.C. average.

d. Personal Income

Derived data indicate that average annual personal income has increased substantially since 1981. The operation of Tanizul Timber has provided Band members with an opportunity for more, steadier and better paid employment. Average family income has remained fairly static due to an increase in family size. Average personal income is still well below national and local levels.

e. Health

Health data were not available from either INAC or the Band. The Band does administer a community health program and Health and Welfare Canada provides for periodic visits to the Reserves by community health nurses.

The few records available indicate that health problems/conditions mainly involve respiratory infections, communicable diseases, gastrointestinal disorders, dental, infant care, accidents and violence, dog bites, alcohol abuse, pregnancy and ear conditions. Tuberculosis is still a problem with the Band. However, the Community Health Representatives are regularly drawn into such matters as sex education, suicide attempts, drug abuse, job counselling, sexual abuse, communicable diseases and family counselling.

f. Drug and Alcohol Abuse

The Band has a comprehensive drug and alcohol abuse program. RCMP records show that alcohol abuse has decreased over the past few years due in part to the Band administration's efforts.

g. Crime

The available RCMP records show that criminal activity involving Band members is startlingly high and that the level of reported crimes involving Band members has remained virtually unchanged since 1983-84 except for the rate of alcohol-related offences, which is significantly lower.

h. Other Social Services Provided by the Band

The Band administers and provides services in child care, community recreation, job creation/training, cultural preservation and a homemakers program for the sick and disabled. It handles federal Social Assistance payments for eligible Band members. One hundred one members receive Social Assistance; 78 are considered employable.

UIC/Social Assistance payments would be $130,000/year higher without the jobs provided by Tanizul Timber Ltd.

i. Housing

The Stuart Trembleur Lake Band has 108 occupied houses with an average of 4.9 occupants per house. One hundred and sixty-six new houses are needed to: replace dilapidated and overcrowded houses, provide houses for new families (due to population growth), and accommodate Band members currently living off-Reserve who wish to return. Before new houses can be constructed, many logistical and administrative problems must be addressed.

j. Land Use

Land and title are prominent issues in the political, economic and social senses. The Band's Tree Farm Licence--see following Part III--covers a large portion of its traditional territories, and non-forestry land uses are inextricably tied to forest management.

3. The Band's Economic Situation

Other than Tanizul Timber Ltd., economic matters relative to the Band are straightforward--there are almost none. Given the Band's confinement to a relatively small and isolated land base and considering that biogeoclimatic conditions leave few major opportunities other than forestry, it is not surprising that forestry plays such a singular role in the Band's economy.

Efforts to develop a recreational subdivision on Stuart Lake were largely unsuccessful. Opportunities for hunting guides and big game outfitters are limited because of the large licensed territories needed for these activities.

Five members hold trapping territory licences within the TFL and 30-40 are held by members outside the TFL. While each licence produces only about 20 pelts per year, the Fur Institute of Canada points out "that the value of the meat produced by

trapping may actually exceed that of the income received from the sale of the animal pelts."

The only significant economic activities related to the Band are the administration of the Band itself (weighted heavily toward social welfare and government activities), and public works and housing projects. The Band has been able to contract more of these latter two activities locally due to the increased capabilities of Tanizul and its contractors.

Other than in forestry, impediments to economic development include:

- Shortage of equity capital;

- No security for loans (Band Reserves are held in trust by the Crown and therefore cannot be used for collateral or mortgaged);

- Government job creation and training programs are too inconsistent, temporary and/or inappropriate to be anything but stop-gap measures;

- Many assistance programs available to Indians are aimed at industrial development and therefore eliminate "primary industry" such as growing trees--this has recently changed but there are still restrictions;

- Phase-in of Indian managers is rarely allowed (e.g., ownership must be at least 50% Indian to qualify for the First Citizens Fund).

PART III - TANIZUL TIMBER LTD.

A. THE CONCEPT

In the 1970s after much deliberation and discussion, the Stuart Trembleur Lake Band decided to promote economic activity and employment by pursuing development in the forest industry. Initially the Band had to overcome resistance from the provincial Ministry of Forests because of its lack of experience in forest and business management and its lack of funding.

In 1981 the Minister of Forests invited applications for the right to tenure to the newly proposed Tree Farm Licence No. 42. Since the legal status of an Indian Band is uncertain, the Band decided that in order to submit an application it would incorporate a company pursuant to the provisions of the B.C. Companies Act. In March 1981 Tanizul Timber Ltd. was incorporated by the Band as their business arm in forestry matters.[4] The company's specific, immediate purpose was to acquire the proposed TFL in order to establish an employment base for the Band at Tache and to bring the "Tanizul Triangle" lands[5] under integrated resource management.

With no equity, experienced personnel or past experience in forest management, the Band focussed its application on the social and economic benefits that would accrue, particularly to the local area. Their proposal was to include the Band Reserve lands in the TFL for management purposes. Provisions of the Indian Act did not allow this. Granting of the TFL to the Band was contingent on the federal government passing an Order-in-Council transferring forest management rights and responsibilities on Reserve lands from INAC to the Band so that these lands could be managed subject to provincial standards. In April 1982 the TFL was awarded to Tanizul Timber Ltd. for a renewable period of 25 years. Tanizul's TFL agreement restricts Tanizul from operating a wood products manufacturing facility, as the province felt that the milling capacity of the forest industry exceeded the estimated long-term timber supply in that region of the province.

Forestry operations commenced with the preparation of a 5-year management and working plan as required by the Forest Act.

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4. At the time, the Indian Act did not allow a Band to directly hold licences such as a TFL. Subsequently, the provisions of the Act have been changed to allow Bands to apply for and receive timber tenures.

5. The Band's traditional area of occupation and land use, which coincided with the proposed TFL's boundaries.

Financial policy requires approval of all expenditures by the company's Board which is composed of six elected Directors holding the company's shares in trust for all Band members. Competent staff (a professional forester and an accountant) direct the day-to-day operations. Cash-flow problems were experienced at start-up but these have been largely overcome with revenues from log sales (the company initially had a 5-year sales agreement), government grants and bank loans.

Profits are invested into the Company to develop and maintain a timber harvesting road system and to purchase capital items. Harvesting, forestry, engineering, and road and landing development are all contracted out. The long-term aim is for Band members to manage and operate all aspects of the business.

B. DESCRIPTION OF THE TFL

Tanizul's Tree Farm Licence No. 42 covers much of the Band's traditional areas of occupation. Made up mostly of the area called the Tanizul (Tarnezell) Triangle--the area bounded by Stuart Lake, Trembleur Lake and the Tachie River--the TFL covers 49 990 ha (see Table III-1). Of this total area, almost 4% (1928 ha) is made up of the Band's Indian Reserves and "cut-off" lands (those portions best suited to forestry); the remainder is Crown provincial land.

Because of previously difficult access, the Tanizul Triangle contains vast areas of prime old-growth timber. Over 60% of the total area is made up of mature and over-mature coniferous forests. This legacy of prime timber forms a solid base for Tanizul Timber's operations. Without this vast area of prime timber, the Band's forestry operations would be minimal because of the very small and scattered Reserves which have mostly been logged-off and left to revegetate with brush and weed trees. With the storehouse of mature timber available on the TFL's Crown provincial lands, the company has the opportunity to harvest the full productive capacity of the whole TFL, with time and money available to rehabilitate previously logged sites on the Reserves and on the fringe areas of the Tanizul Triangle which were harvested by outside companies in the 1950s and 1960s.

The AAC for the TFL has been 120 000 m^3/year, calculated on a sustained yield basis.

TABLE III-1

ALLOWABLE ANNUAL CUT AND
FOREST AREA SUMMARY - TFL #42

FOREST COVER CATEGORIES AND AGE CLASSES (Years)	AREA (ha)		PERCENTAGE	
Over-Mature Coniferous* (121+)	24 759		50	
Mature Coniferous (81-120)	6 264	31 023	12	
Older Immature Coniferous (41-80)	518		1	
Juvenile Coniferous (1-40)	2 815		6	
NSR & NCC** - Current	1 045		2	
- Backlog	3 886	4 931	8	10
Sub-Total: Operable Forest Lands	**39 287**		**(79)**	
Mature & Immature Deciduous	5 503		11	
Non-Operable***	1 989		4	
Sub-Total: Productive Forest Lands	**46 779**		**(94)**	
Non-Forest Lands	3 211		6	
GRAND TOTAL AREA - TFL #42	**49 990**		**100**	

ALLOWABLE ANNUAL CUT

- Crown provincial lands	98%
- Band lands	2%
Total Cut	120 000 m^3/year
	(132 000 m^3/year proposed 1987-92)

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* Includes pine stands 81+ years old.

** NSR is area not satisfactorily restocked after a disturbance such as logging or forest fire; NCC = non-commercial cover (brush or weed tree species).

*** Environmentally sensitive sites, economically or physically inoperable areas, future roads, etc.

C. FOREST MANAGEMENT OBJECTIVES

The Stúart Trembleur Lake Band (per Tanizul Timber Ltd.) has the following objectives in managing its TFL:

- Develop and maintain an economical and feasible timber supply based upon sustained yield and multiple-use principles by integrating the Band's Reserve lands suited to forest production with the Crown provincial lands on the TFL;

- Provide Band members with a meaningful and practical vehicle for job training leading to follow-up employment;

- Create a stable employment base close to home for Band members;

- Enhance the productivity and optimize the allowable cut through the application of the most modern, cost-effective silvicultural techniques;

- Contribute to the immediate and long-term social and economic benefits of the Band and other local residents through intensive integrated management of the natural resources in the TFL area;

- Administer the TFL so as to allow the Band to provide formal input into, and exercise some control over, land-use decisions affecting territory traditionally used by the Band for hunting, fishing, trapping, gathering and fuelwood collection.

D. NON-TIMBER RESOURCE VALUES

1. Background on Integrated Resource Management

The Band's aim in managing the TFL is to bring the timber, fish, wildlife, recreation and water resources under integrated management for the greatest social and economic benefits to the people of B.C. and, in particular, the Band members, while still trying to develop "optimum timber values." Harvesting methods and silvicultural practices are selected to minimize adverse effects on other resources. Input from both the general public and Band members is solicited by the company in reaching decisions on resource management.

2. Descriptions of Non-Timber Resource Values

The company has prepared maps and over-lays to identify areas of land-use conflicts and to allow full comprehension by laypersons in resolving such conflicts.

- Fisheries

The maps show the locations of all water bodies important for anadromous and non-anadromous fisheries. The Tachie River[6] is of critical importance since it contains the spawning grounds for several species of anadromous fish which are a staple of the Band's diet.

- Wildlife

The TFL is rich in wildlife, particularly fur-bearing and big game animals. Migratory birds are plentiful on the lakes and the Tachie River.

- Trapping

Trapping is one of the traditional mainstays of the Band's economy and Band members are anxious to protect their trapping rights.

The five trapline territories in the TFL are all registered to Band members. Each territory averages about 20 pelts/year. This represents a total gross sales value of roughly $4,000/trapline/year (source: B.C. Fish and Wildlife Branch).

- Hunting and Guiding

Big game hunting for food is another traditional resource use. The whole TFL area is part of a large registered guiding territory belonging to a non-Band member. It is expected that logging road development will promote public hunting and reduce "virgin" conditions. However, it will be many years before logging roads open up the west end of the TFL which is an excellent hunting area used by non-resident hunters who stay at the lodge on Stuart Lake.

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6. The river joining Trembleur Lake with Stuart Lake, at the mouth of which is situated the Band's most populated Reserve.

- Recreation

Prior to the award of the TFL, public recreation in the TFL was minimal. The major attractions are hunting, fishing and the remoteness of the area. Today the new Tachie River bridge allows many more tourists and sportsmen to visit the TFL.

- Mining

The potential for mining development in the TFL is limited. Records show small amounts of pyrite (iron) and galena (lead) but no major exploration activities since 1937.

E. FOREST MANAGEMENT AND DEVELOPMENT ACTIVITIES

Tanizul uses its own staff for administration (supervision, accounting, stenography) and contractors for almost all operational activities. The two main contractors are companies owned and operated by two individual Band members.

The Band proposed to cut 132 000 m^3 per year for the period 1988-89 and 1993-94 (reflecting a need to salvage stands suffering from insect infestations) but maintain the AAC of 120 000 m^3 in the long term. The silvicultural plan is to operate at a "basic" level of management (i.e., ensure adequate reforestation of logged areas by the most efficient means, followed by tending of resulting regeneration, as necessary, to the "free-to-grow" stage) at least until 1993.

Intensive management performed from 1982 to 1987 included:

- Surveying and preparation of prescriptions for silvicultural treatments on 2000 ha logged through government timber sales from 1950 to 1960;
- Development of road access (18.5 km) and harvesting of timber from forests suffering from severe insect infestation;
- Development of an early forest fire detection system and suppression plan;
- Site preparation (1018 ha) and planting (812 ha with one million seedlings).

Future plans for implementing a more intensive management program include:

- Extension of the road network for fire protection purposes and to allow prompt harvesting of insect-damaged stands;

- Rehabilitation of all "backlog NSR"[7]. (This work was begun in 1987 using Tanizul's own equipment and a small amount of hand labour.)

F. ECONOMIC AND SOCIAL OUTPUTS ATTRIBUTABLE TO TANIZUL'S FORESTRY OPERATIONS

1. Direct Employment

Table III-2 indicates that, exclusive of government job creation programs, the Band's forestry operations provide employment for 75-122 people each year, depending on the volume harvested and the amount of reforestation carried out. Normal (full) harvest of the AAC plus full-scale reforestation would employ about 80 people: approximately 45 full-time. A full-time job on logging and road building in this region involves only about seven months work per year due to climatic and soil conditions. The Band's ultimate objective is to fill all 80 of these positions with qualified Band members or other Natives.[8]

2. Training

The Band's employment training functions have largely been assumed by Tanizul. Band members originally lacked many of the skills needed in forestry. Over the first five years of Tanizul's operations, federally sponsored job creation and training projects (see Table III-3) have provided work and/or training in forestry for about 90 individual Band members to prepare them for employment with the company and its contractors, and other companies and contractors in the local area.

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7. Backlog NSR areas are sites where past logging or forest fires have resulted in the regeneration of insufficient numbers of "free-to-grow" commercial trees.

8. In 1986-87 Stuart Trembleur Lake Band members got 40-45% of the work, while Indians from other Bands got 5-10% of the work.

TABLE III-2

EMPLOYMENT DIRECTLY ATTRIBUTABLE TO THE TANIZUL TFL
--EXPRESSED AS NUMBER OF JOBS

1987 (1986 figures in brackets)

	BAND MEMBERS	NON-BAND NATIVES	NON-INDIANS	TOTALS
Tanizul Employees				
Management, Admin., Clerical	3 (3)	- (-)	3 (2)	6 (5)
Grader Operator/Labourer*	1 (1)	- (-)	- (-)	1 (1)
Janitor	1 (1)	- (-)	- (-)	1 (1)
Sub-Totals	**5 (5)**	**- (-)**	**3 (2)**	**8 (7)**
Logging and Road Building Contractors (including involved owners)				
Management	2 (2)	- (-)	- (1)	2 (3)
Loggers	11(10)	2 (7)	1(10)	14(27)
Truckers	- (-)	- (1)	7(13)**	7(14)
Road Construction	- (-)	- (-)	1 (1)	1 (1)
Sub-Totals	**13(12)**	**2 (8)**	**9(25)**	**24(45)**
Reforestation, Silviculture and Fire Fighting (seasonal)				
Fire fighting	1 (1)***	- (-)	- (-)	1 (1)***
1987 Tree planting	18(16)	5 (-)	60 (-)	83(16)
Sub-Totals	**19(17)**	**5 (-)**	**60 (-)**	**84(17)**
Consultants (part time)				
Forestry, Engin., Account.	2 (2)	- (-)	4 (4)	6 (6)
GRAND TOTALS	**39(36)**	**7 (8)**	**76(31)**	**122(75)**

* Tanizul's grader maintains roads on the TFL and on local public roads, under contract to the provincial highways department.

** Includes owner of trucking company.

*** Plus 23 Band members and 1 Native non-Band member on-call during fire season.

TABLE III-3

TANIZUL TIMBER LTD. - SUMMARY OF JOB CREATION AND TRAINING PROJECTS

YEAR	TYPE OF PROJECT	SPONSOR	FUNDING	NUMBER OF PARTICIPANTS	DURATION (Weeks)	TOTAL PERSON-WEEKS	OUTPUTS	
							Personal	Other
1982	Training in forestry	CEIC	$ 16,050	4	12	48	Training in forestry field work	Reduced forest inventory, logging layout and survey costs
1982	Training in forestry	CEIC	41,529	30	15	400	Training in silviculture and fire suppression	Stand tending (31 ha), tree planting (45 ha), road maintenance, boundary re-establishment, trail building, site preparation (10 ha), recreation sites, surveys
1983	Training in forest surveys	CEIC	29,411	11	15	150	Training in silvicultural surveys	Surveys and prescriptions for 2000 ha
1983-84	Job creation	CEIC	36,400	12	15	180	Employment	Railroad siding slashed and cleared
1983	Training in truck driving	CEIC	(20,000)	17	4	68	Training for Class 1/Air Brake Licence	-
1986-87	Training in equip. operation	INAC	20,000	10	6	60	Training in operating various logging equip.	Extra logging production for contractors; falling (clean-up) after clearcut logging
1986	Training in forestry	CEIC	42,210	5(16)	24	295	Training in basic forestry and life skills	Some silvicultural treatments and reforestation
1986-87	Training in logging	CEIC	84,237	13	47	250	Training in all phases of logging and equipment operation	An extra 3000 m^3 of timber production; road maintenance, clean-up after logging
Totals			$289,837	102(113)	138	1,451		
1987 proposed	Train. and job creation in silviculture	B.C. JOBTRAC	(34,000)	5	24	120	Training in silviculture	Thinning 50 ha of young forests (result of 1983 surveys)

As a result, Band employment in Tanizul's operations has risen from roughly 30% in 1982 to 40-45% in 1987, plus a few Band members have found work with outside (non-Tanizul) contractors and consultants.

3. Economic Outputs

The company's forestry operations have generated $3.5 million in gross sales per year. This equates to an average of just over $30 per cubic metre of timber harvested.

The Association of B.C. Professional Foresters (ABCPF) has determined that, on average, each cubic metre of timber harvested in B.C. represents a total direct economic benefit to society of $115 (on the basis of total selling price of end products).[9] The ABCPF maintains that this average figure of $115/$m^3$ is the unduplicated sales value of commodities produced by primary manufacturing processes in the forest industry; i.e., it represents the average Gross Domestic Product (GDP) resulting from B.C.'s forestry operations.[10]

The ABCPF report also says that indirect (and induced) economic benefits resulting from forest industry activities in B.C. can be estimated as $85/$m^3$ harvested, for an equivalent, aggregate economic benefit (direct and indirect) of $200/$m^3$ of harvested timber.

Using these figures, the Tanizul forestry operations apparently form the basis for $23 million/year of economic activity (direct and indirect). Since the TFL's Crown provincial lands could theoretically be managed for forestry by any company, the "extra" input to the economy comes in the form of the portion of the TFL's AAC contributed by the Band's own lands.[11] The Band's lands contribute 2% to the TFL's AAC, so theoretically they contribute $460,000/year to the country's GDP. The direct

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9. Economic Benefits of Timber and Productive Forest Land in British Columbia, 1985.

10. A 1987 CFS report, Impact of Forestry Activity on the Economy of Canada and Its Provinces: An Input-Output Approach, basically confirms these ABCPF estimates but points out that some of the economic returns from B.C.'s timber harvest are realized outside B.C.

11. Theoretically, the Band's lands should produce a steady flow of economic benefits under sustained yield forest management whether they are part of a TFL or not. In practice, the Band's lands are so small and scattered that their full potential can only be realized when they are combined with adjoining lands to form a fully viable forest management unit.

economic benefits from the Band's lands are most significant to this study. At $\$115/m^3$ of direct economic benefit, the Band's lands have been responsible for an average and sustained output of $265,000/year of GDP which would not have materialized without the Band's involvement in forestry and the combination of the Band's lands with Crown provincial lands to form a larger, more viable forest management area.

Most of the benefits from the economic returns accrue to society as whole rather than to the Band. The average gross sales value of logs has been about $\$30/m^3$. Band member-owned contracting companies, Band member employees and Tanizul itself receive about half of this revenue as wages, contract payments and profits. The rest of the $\$30/m^3$ goes to non-Native employees, contracting companies, capital purchases, servicing agencies and government payments. The economic multiplier has no significance to the Band since there are no stores or service businesses run by the Band or Band members to recycle the Tanizul revenues. All the spending resulting from Tanizul-generated wages, profits, contractor payments and purchases accrue outside the Band, particularly to the economy of Fort St. James.

The difference between the $\$30/m^3$ received by Tanizul and the $\$115/m^3$ of unduplicated sales value accruing to the Canadian economy goes to "downstream" manufacturers, shippers, brokers, etc. who "add value" to Tanizul's primary output of raw logs.

While the Band has certainly derived significant economic benefit from Tanizul's operations, the main economic beneficiary has been the B.C. economy.

4. Financial Situation

Tanizul has weathered the forestry recession of the early 1980s. With retained earnings of just over $1 million and average annual net income of over $173,000 (as of March 1987), the company's finances appear to be in reasonably good shape. However, a closer look reveals a different story.

Table III-4 shows that Tanizul has received about $1.5 million in outside subsidies since its inception, 50% more than the company's retained earnings. Even if the grants and subsidies for training and job creation and from the Band itself are ignored, the company has received the equivalent of its retained earnings from outside sources in the form of operating grants.

The company appears to be highly subsidized by government. But while government assistance has averaged about $234,000/year (see Table III-4) or $186,000/year excluding job creation/ training subsidies, direct payments by Tanizul, mainly to the B.C. government, have averaged about $90,000/year in net

TABLE III-4

OUTSIDE SOURCES OF FUNDING (EXCLUDING LOANS)
FOR TANIZUL TIMBER LTD.

FISCAL YEAR	AMOUNT	DESCRIPTION	SOURCE	PURPOSE
1981-82	$ 96,000	Grant*	Special ARDA	Prepare TFL application $66,000; bonus bid to B.C. for TFL $30,000
"	5,000	Grant*	B.C. Gov't.	TFL application and initial planning
"	25,000	Grant	First Citizens Fund	Operating/Start-up costs
1982-83	75,000	Grant	First Citizens Fund	Operating/Start-up costs
"	57,000	Subsidy	CEIC	Job creation/training
1983-84	100,000	Grant	First Citizens Fund	Operating/Start-up costs
"	65,104	Subsidy	NEED, EBAP	Job creation/training
1984-85	1,953	Subsidy	INAC, CEIC	Job creation/training
1985-86	60,000	Subsidy	INAC, CEIC	Job creation/training
1986-87	101,693	Subsidy	INAC, CEIC	Job training
"	25,000	Grant	INAC	Sawmill feasibility study
"	95,390	Donation	Band	Operating
"	61,800	Grant	INAC	"Business Development"
"	731,000	Grant	NEDP	Equipment, roads, silvi.
"	(267,060)	Grant	NEDP	Deferred, for equipment purchase

Total **$1,499,940** plus deferred NEDP equip. purchase grant of $267,060

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* Actually provided to the Band for use in setting up Tanizul and acquiring the TFL.

stumpage and other fees, permits, rentals and penalties. Due to the recent elimination of B.C.'s stumpage rebate system[12] and an across-the-board increase in stumpage rates, Tanizul's stumpage payments will increase by about $130,000 - $200,000/year from their previous level.

While the federal government has been subsidizing Tanizul during its first 5-6 years of operation, the provincial government has been recovering a large portion of this subsidy in return for granting Tanizul its harvesting rights on provincial lands.

The federal government also saves $130,000/year in personal support due to the elimination of Unemployment Insurance and Social Welfare payments to Band members employed by Tanizul and its contractors.

Tanizul's financial situation can by no means be called secure but it cannot be called overly subsidized.

5. Social Outputs

Employment and training are the nigh profile and more easily quantifiable social outputs resulting from the Band's forestry operations. Other social benefits which have accrued from the TFL acquisition are:

- Road development for logging has improved access for both the Band and general public into the Tanizul Triangle for traditional Indian land uses, access to the Portage Reserve and recreational use for all;

- The success of Tanizul Timber Ltd. has instilled greater pride and confidence into Band members and has provided the Band with increasing credibility and recognition in the community of Fort St. James and elsewhere;

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12. This stumpage rebate (or offset) system, which was eliminated in October 1987, should not be viewed as a subsidy. The system allowed licensees operating on Crown provincial lands to reduce their provincial stumpage payments by pre-approved amounts spent on certain reforestation, silviculture and main-road construction carried out on provincial lands by the licensees. The system has been replaced by one in which the applicable costs are used up-front in calculating stumpage rates. Consequently, these costs are no longer always totally "recovered" by the licensees; so the licensees can expect to pay increased amounts of stumpage to the province.

- The Band's communities now understand how a business operates and how to control it. They have also learned how community involvement influences local resource development and they have direct involvement in the management of fisheries and wildlife resources as well as forestry development activities.

As can be expected, there are some social costs associated with the Band's involvement in forestry:

- Despite community involvement in forest planning, trapping on the TFL has diminished due to road construction and clearcutting;

- Some Band members harbour feelings of resentment due to the unrealistically high expectations for jobs and economic prosperity anticipated from Tanizul;

- General public access to the Tanizul Triangle is not welcomed by all Band members.

G. FUTURE DIRECTIONS FOR TANIZUL AND THE BAND

Greater economic and employment benefits accrue from secondary industry than from primary industrial activity such as timber harvesting. At present, the Band gets no downstream economic returns from Tanizul's operations. In an attempt to overcome this limitation, the Band has established and incorporated Teeslee Forest Products Ltd. for the purpose of building or purchasing and operating a sawmill. Once operational, Teeslee would employ 25 people. As Tanizul's TFL agreement specifically excludes the company from operating a timber manufacturing facility, the Ministry of Forests has been approached for permission to proceed.

Tanizul has further room for employment expansion in the areas of silviculture and reforestation. A fully developed silviculture program is labour intensive and would utilize up to 20 relatively unskilled workers full time. Such a program increases timber yields and promotes further understanding of forestry in the community. Financial support is available through various government programs.

Finally, there is the potential for establishment of a small business sector on the Band's Reserves. Small retail and service businesses would ensure recycling of wages and contract payments in the Band's communities.

PART IV - THE COLDWATER BAND

A. INTRODUCTION

The Coldwater Band was selected for this study because of its progressive approach to socio-economic development and because it offered a complete contrast to the single industry operations of the isolated Stuart Trembleur Lake Band. The Coldwater Band has not only a long history of harvesting but has implemented an integrated land management program on its Reserves for the past 10-15 years.

The predominant land use on the Band's Reserves is grazing and/or hay production for cattle and horses. The Band also holds, and has done so for the past 40 years, grazing licences on nearby Crown provincial lands which total roughly 10 000 ha.

The diverse economy of the Merritt region--ranching, farming, forestry, tourism, mining, government services and related (small) business in the service and construction sectors--strongly contrasts with the economic situation of the Stuart Trembleur Lake Band. This diversity in the Merritt region is reflected in the Coldwater Band's socio-economic situation where ranching and small businesses exceed forestry in economic and social importance.

The Coldwater Band is linked with other nearby Bands in significant co-operative political, social, economic and governmental development efforts.

B. GENERAL INFORMATION ABOUT THE BAND

1. Location and Population

The Coldwater Band, holding three Reserves totalling 2481 ha, is located near Merritt in south-central B.C. (see Figure I-1). The population of 419 lives on two of these Reserves, with the largest community located at Coldwater, 20 km south of Merritt by paved highway. About 60% of Band members reside on-Reserve in 80 housing units. Since 1977, the Band's population has grown by an annual rate of approximately 2%. Table IV-1 shows the current on-Reserve population by age and sex.

TABLE IV-1

ON-RESERVE POPULATION OF THE COLDWATER BAND
BY AGE AND SEX

Age	M	F	Total
0-4	3	9	12
5-9	10	13	23
10-14	15	11	26
15-19	15	13	28
20-24	16	13	29
25-39	41	33	74
40-54	19	15	34
55-64	12	13	25
65+	5	5	10
Total	**136**	**125**	**261**

2. Band Administration

The Band is administered by four elected Council members who oversee a budget of $1.6 million/year.

The Band is heavily committed to the concept of regional economic and social development through its involvement with four other Bands in the Nicola Valley Indian Administration (NVIA) and that organization's off-shoot co-operative programs.

3. The Nicola Valley Indian Administration and Related Programs and Organizations

The NVIA is an administrative structure formed by the five Indian Bands near Merritt to "maximize efficiency of program delivery and to pool managerial and administrative expertise." NVIA's mandate is to assist each of the member Bands to exercise self-government and to improve the educational, social, cultural and political well-being of Band members through the creation of a broad base of economic development."

NVIA programs include:

- Administration: Each of the Bands conducts its own administration through a core staff at NVIA. This centralized system provides more scope for co-operation and co-ordination in program development.

- Education: NVIA administers all levels of education from kindergarten to post-secondary and is encouraging the return to education on the Reserves because of the higher success ratio of students educated on-Reserve. The Nicola Valley Institute of Technology (NVIT) located in Merritt was conceived by the Bands and developed through the education branch of the NVIA to "provide post-secondary education opportunities for Native students seeking better careers and to prepare those aspiring to management responsibilities in their home communities." The NVIT offers courses affiliated with other B.C. learning institutions and is accredited by the Province of B.C. at the Certificate and Diploma levels in certain fields. Its forestry program trains students to the technician level for employment by local Bands, industry and the Ministry of Forests.

- Social Development Programs: These include welfare needs of Band members living on the Reserves, alcohol and drug abuse, and health.

- Economic Development: Current programs include housing construction, on-Reserve water system development, and land acquisition and development. Through the Nicola Valley Indian Development Corporation (NVIDC), loans and grants to eligible economic projects are considered and advice and assistance to Band members concerning business management, finance, purchasing, training and marketing are available. In the area of forestry, the NVIDC employs the services of a local forestry consultant to assist the member Bands with forest management plans, implementation and administration of "umbrella" forestry job creation and training projects, and to obtain harvesting and management rights on nearby Crown provincial lands. This latter service has resulted in the obtaining of a Timber Sale Licence by one Band and three Woodlot Licences by other Bands (one being the Coldwater Band).

- Membership: NVIA administers membership for each of the Bands.

- Reserves and Trusts: NVIA co-ordinates settlement of estates and "devolution" of Reserve lands. The Bands are working on the establishment of a land registry system.

C. THE COLDWATER BAND'S SOCIAL AND ECONOMIC SITUATIONS

According to Band Chief Gordon Antoine, in the 1940s, 1950s and early 1960s, the Band had virtually no unemployment: ranching, farming, logging, sawmilling and construction jobs were plentiful. The Band itself grazed 400 horses and an equal number of cattle, both on and off-Reserve.

Starting in the early 1970s, sawmill production in B.C. was consolidated into a few integrated mills and many jobs were lost. About the same time, the last of the Band's own commercial timber was logged[13] and the supply of Christmas trees on the Reserves reached the depleted stage.

Approximately 80% of Band members in the workforce are dependent on seasonal employment. Since 1973 the Band has used its intensive silviculture, range and community improvement needs to offset the seasonal downturns in local employment. This has been done by setting up its own on-Reserve labour program for Band members who qualify for Social Assistance (through INAC) but who are fit to work. Band members are then able to gain work experience and earn UIC credits. As well, the Band has implemented annual and seasonal job creation and training projects in forestry (Table IV-2) to restore the Reserves' forest and range lands to full productivity. This provides temporary work to Band members who qualify for UIC. Finally, Christmas tree harvesting has been reduced and reserved for students to help them through school.

On-Reserve housing has been built by Band members since 1977. The other on-Reserve economic activities (besides ranching) are an arts and crafts shop and Native art production for sale elsewhere.

Full employment figures and personal income statistics are unavailable.

There are 100 students in the Band-run on-Reserve school (kindergarten to Grade 12). The NVIA currently has three students completing Forest Technology at the B.C. Institute of Technology.

D. THE COLDWATER BAND'S FORESTRY PROGRAM

1. Size and Description of the Band's Forest Lands

While approximately 65% (1633 ha) of the Band's Reserves are classed as productive forest land, only about 1000 ha are

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13. The logging-off of the Band's timber was done with neither long-term sustainable employment and income in mind nor any thought to reforestation. The Reserve timber did provide funds for community projects and a capital reserve for future development projects.

TABLE IV-2

SUMMARY OF THE COLDWATER BAND'S FORESTRY JOB CREATION AND TRAINING PROJECTS FOR THE YEARS 1985 - 1987*

YEAR	TYPE OF PROJECT	SPONSER	FUNDING	NUMBER OF PARTICIPANTS	DURATION (Weeks)	TOTAL PERSON-WEEKS	OUTPUTS	
							Personal	Other
1987-88	Training in forestry	CFS/FRDA	$73,982	5	29?	145	Acquire skill in spacing and thinning techniques and rational chainsaw use, etc.	Silviculture treatments, juvenile spacing 181 ha (Band pays $20,319 towards project)
1987-88	Training and work experience in silviculture	CEIC	$32,200	5	16	80	As above	As above
1987	Training and work experience in silviculture	CEIC	$42,400	4	20	80	Acquire skills in spacing and thinning, chainsaw, safety, etc.	Juvenile spacing and clean-up
1986	As above	CEIC	$44,000	5	20	100	As above	As above
1986	Training and work experience	CEIC	$34,400	5	17	85	Training in spacing, thinning, first-aid, fire suppression	As above
1985	Training in silviculture and range enhancement	CEIC	$24,000	5	11	55	Training in juvenile spacing and range enhancement	Range enhancement and as above

* Note that records of pre-1985 projects are not available and that some of the projects listed were part of larger efforts sponsored by the NVICD--only the Coldwater Band's portions of these larger efforts are presented here.

available for forestry purposes due to environmental and stream-side set-asides. The acquisition of the Woodlot Licence will add to this total.[14]

The AAC for the Coldwater Band's Reserves is 1565 m^3 per year (excluding the Woodlot Licence for which the AAC has not been finalized) plus 2,500-3,000 Christmas trees per year.[15] Timber harvesting is presently limited to "own-use" for fence posts, fence rails and building materials until the full commercial harvesting level is regained.

The three commercial species growing on the Reserves--Douglas-fir, yellow pine (Ponderosa) and lodgepole pine--are all shade-intolerant. These species reproduce best as a result of a disturbance such as fire or logging. Only about 2-1/2% of the stands are classed as mature. The remaining immature and NSR portions have been subject to an intensive silvicultural treatment program since the early 1970s, using job creation and training funding to the extent that all stands needing treatment will have received it by 1990. Further work will not begin for another five years after that. Cost/benefit analysis of this work shows that although the payout period is 90 years, the size and quality of timber will be increased, the cost of final harvesting will be reduced, the silvicultural treatment costs become returns to the local economy, widely usable skills are acquired, and the net socio-economic return will be far greater than the direct economic payout.

2. Forest Management Objectives

The Coldwater Band's forest management objectives for its Reserves are to:

- Maximize the wood growth and range grass growth for beef production on all the forest portions of the Reserves;

- Remove the remaining volumes of over-mature timber and have small periodic cuts in the maturing stands that equal growth, when market and conditions warrant;

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14. Note the contrast between the productive forest land area available to the Coldwater Band (1300 ha including the Woodlot Licence areas) with the 39 000 ha available to the Stuart Trembleur Lake Band through its TFL.

15. Due to past overcutting, only 1,200-1,500 trees/year are to be harvested at present.

- Remove 2,500-3,000 Christmas trees per year, leaving behind a stand of well-spaced lumber crop trees;

- Carry out the preceding objectives using procedures which protect wildlife habitat, watersheds and fisheries resources.

Ultimately the Band's goal is to have "an even, expected income from timber harvesting and beef production on the Reserves."

3. Non-Timber Resource Values

The Band grazes 250-300 head of cattle and 70-100 horses owned by individual Band members on its Reserves and on 10 000 ha of Crown range it leases from the Ministry of Forests. The Crown range is available for a 5-month period from April to August. The number of individually owned stock has remained at about the same level since 1982. Yearly hay production for all individuals combined is approximately 1500 metric tons. The Band is a member of the Coldwater Co-ordinated Resource Plan which co-ordinates range, recreation and forestry land use throughout the Merritt region. Range improvements are done with full regard for timber production.

Wildlife, fisheries, aesthetics, recreation and environmental values are strictly protected. The Band's smallest Reserve is set aside ("reserved") for recreational use only.

E. THE COLDWATER BAND'S FUTURE ECONOMIC DIRECTIONS

Chief Gordon Antoine says that the Band and the NVIDC will not become commercial employers nor will they develop their own private sector enterprises. Their joint role is to help prepare and assist Band members and Band member-owned companies in setting up and operating commercially viable business ventures in forestry and other sectors. A Tanizul-type operation, where the Band sets up and owns the company, is not envisioned. The Coldwater Band's economic principle is to encourage, support and facilitate enterprise but not control it. The Band and the NVIDC will help prepare and train workers and entrepreneurs, assist in grant acquisition and provide venture capital, loans and back-up expertise for Band members and Band member-owned companies to develop their own corporate enterprises on and off-Reserve.

Full-scale timber and Christmas tree harvesting will not likely begin until sufficient Band or NVIA members are educated and trained, the Reserves' forest resources are fully restored, the cut timber will have value-added (can be manufactured), and a Band member-owned company is prepared to carry out the operation, with support if necessary.

It is estimated by Gordon Antoine that NVIDC funding is already "recycled" three times within the Bands' economies through such business linkages as construction company, housing development, office space rental, computer services, consulting services, accounting services, matching grants, NVIT's operations, loans, etc. He proposes that the Coldwater Band's forestry operations (other than enhancing silviculture, range improvement and Christmas tree tending) be held in abeyance until the same internal economic multiplier effect will be felt in the forest sector.

PART V - THE RETURNS FROM INVESTMENTS IN FOREST MANAGEMENT ON INDIAN LANDS

A. BENEFIT/COST ANALYSIS IN FORESTRY INVESTMENT

According to A. Fraser of the CFS[16], in deriving an appropriate framework for benefit/cost analysis "it is certainly true that the objectives and responsibilities of government extend far beyond mere economic efficiency"; the "equitable distribution of income and improved quality of life are also fundamental social concerns." In his illustration of the information requirements for benefit/cost analysis of forestry investments, he states that "non-efficiency" objectives (i.e., a non "dollars-and-cents orientation") may justify government's maximization of either social benefits alone or a combination of social, environmental and economic benefits, rather than simply ranking investment alternatives strictly on the basis of financial rates of return.

In choosing methodology for "dealing with technical limitations and with non-efficiency objectives" in the context of forestry benefit/cost analysis, Fraser calls for:

- Integration of these (non-efficient/technical) effects within a financial framework (e.g., use relevant indirect, multiplier effects) giving consideration to impacts between both private and government sectors, perhaps by assigning weights to the distribution of the project's socio-economic benefits; or

- Attempting to value non-market items (although this may require a large amount of information which is often unavailable).

However, he says that this procedure is flawed because it requires "an explicit valuation by the analyst" thereby usurping "the decisionmaker's role" and, "in effect ... push(ing) benefit-cost analysis beyond its limited objective of facilitating rational choice." He recommends[17], "A more satisfactory method of handling non-efficiency

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16. Benefit-cost analysis of forestry investment, Inf. Rep. BC-X-275, 1985.

17. Fraser provides a relevant example: "A particularly good illustration of this procedure is given in the planning for Canada's west coast salmon enhancement program. Here, several high-priority objectives were identified including income and employment for both Native Indians and for residents in the less developed regions of B.C. Various measures of effectiveness in attaining these objectives were developed. Estimates were then made of the contribution to individual projects, as well as alternative programs, to the achievement of those objectives. All of this information was then provided in the program analysis (Friedlaender and Fraser 1981)."

effects and broader social concerns is simply to document these impacts for parallel presentation with the financial information. In this procedure, the format of benefit-cost analysis is useful for clarifying thinking. Objectives beyond economic efficiency can be verbalized and the extent to which various alternatives contribute to their attainment can be investigated. In effect, it encourages a more tightly argued and quantitative approach to the impacts of a project in social and environmental terms."

As the previous sections of this report have shown, there is a dearth of historical socio-economic information upon which to base investment decisions where comprehensive Indian forest management programs are under consideration. Nevertheless, approaches to making such decisions must be attempted with full awareness of the informational deficiencies, yet with complete understanding of the need to make a decision.

B. REFERENCE GROUPS

1. Introduction

In a study such as this, an analysis of benefits and costs must be done with reference to particular agencies or groups in order to be relevant and useful. The reference groups appropriate to this study are Indian Peop'e in general represented by the Stuart Trembleur Lake Band and the Coldwater Band as case studies, the provincial government (in this situation B.C.), and the nation as a whole embodied in the federal government.

It should be kept in mind that the benefits and costs borne by one reference group could be different from those borne by another reference group. Also, the reference group will dictate the benefits and costs that are relevant, while different evaluations are needed for different reference groups.

The following sub-sections present a documentation approach to benefit/cost analysis as it applies to the involved reference groups.

2. Benefit/Cost with Reference to the Bands

When it comes to analysing and comparing socio-economic strategies or options, within an appropriate timeframe an Indian Band or similar community entity will intrinsically and logically define and then follow its own most efficient, appropriate and applicable decision-making process.

The Stuart Trembleur Lake Band's reasoning and approach have been described, and the results over the first 5-6 years of a comprehensive forest management program have proven the choice

and strategy for pursuing that choice to be correct. The social and economic outputs from Tanizul Timber's operations have outdistanced any possible alternatives.

The Coldwater Band's strategy for social and economic development related to forestry is different than the Stuart Trembleur Lake Band's basically because the Coldwater Band has much less merchantable timber at its disposal but a much broader economic base to work from. These differences are reflected in a less hurried, more economically and environmentally integrated approach to forestry. Again, it would be difficult, especially for outsiders, to devise a better alternative.

No study such as this could possibly formulate or recommend better or more logical approaches at the local community (Band) level than the Bands themselves can and will devise. Parts II, III and IV have demonstrated the inherent ability of groups such as the Coldwater Band and the Stuart Trembleur Lake Band to correctly carry out, over time, an intrinsic benefit/cost analysis of appropriate socio-economic strategies and to be successful in implementing the chosen strategy(ies) given the right support from the various levels of government. A Band will benefit from assistance during the decision process to ensure that the full range of options is considered and the appropriate questions are addressed, but only the Band can make the decision based on its priorities and perceived ability to implement potential options.

3. Benefit/Cost with Reference to the Provincial Government

B.C.'s Forest Act calls for a socio-economic benefit/cost analysis whenever a Tree Farm Licence is made available. The Act calls for the Minister of Forests to evaluate applications and applicants for new TFLs on the basis of potential for:

- Creating or maintaining employment opportunities and other social benefits in the province;
- Providing for the management and utilization of Crown timber;
- Furthering the development objectives of the Crown;
- Meeting the objectives of the Crown in respect of environmental quality and the management of water, fisheries and wildlife resources;
- Contributing to Crown revenues.

Tanizul Timber Ltd. had to compete with two other applicants in order to acquire TFL No. 42. One of the other applicants based its claim to the TFL on its proven record of forest management elsewhere in northern B.C. The other applicant's claim was based on maximizing short-term revenue to the B.C. government (a huge, up-front bonus bid and a promise to build the access bridge and road into the TFL area using its own financing). Both of the other applicants were based in Prince George, a 3-4 hour drive from the TFL area.

Tanizul's successful application was based on:

- Bringing the Band's lands (Reserves and cut-off lands) into sustained timber production by combining them with the Crown provincial lands in the TFL;

- Local control of the TFL and its other land uses, including protection of environmental quality;

- Maximization of employment and targeting of that employment at those with the higher need (those in the local area);

- A smaller, but nevertheless substantial bonus bid to the province (i.e., an economic incentive to the province--Tanizul's bonus bid was $30,000, a show of financial commitment).

Obviously the province's social evaluation criteria were better met by Tanizul. The environmental benefits of having local, Native people who are familiar with the land manage the resources also may have been a factor. And since the award of the TFL, the province's choice has been well vindicated by Tanizul's performance and independence from any provincial support other than that to which any licensee would be entitled.

The same process and line of reasoning were followed with the award of a provincial Woodlot Licence to the Coldwater Band as well as with its retention of a large grazing licence on Crown provincial land.

4. Benefit/Cost with Reference to the Federal Government

Because it holds the trust responsibility for Indian People, the federal government has an extremely important role in Indian forestry and consequently a great deal of interest in the social and economic benefits and cost of supporting such a highly relevant sector. In simple, appropriate terms, the national benefit of a program is the value of the goods and services produced over and above those which would exist without the program. The national cost in an investment represents the value of real resources displaced from other uses. Since the

federal budget is presently quite static, it is unlikely that there will be incremental federal initiative in support of Indian forestry. However, it would be in order to present a benefit/cost analysis from a federal government standpoint in a format which would demonstrate the effects of investments in Indian forestry in offsetting other federal programs in the short term and in obviating still other programs in the long term. This would provide the federal government with the opportunity to transfer spending from other programs to forestry with no increase in overall spending, if forestry were more worthwhile based on combined net social and economic returns.

This line of reasoning is currently being considered by the federal government itself in the area of employment (which is particularly relevant to this study as well).

A Senate sub-committee recently put out a report entitled In Training, Only Work Works: Train Canadians and Create Jobs Without Increasing the Deficit, Inflation, or Tax Rates. The report outlines an approach to reducing unemployment and increasing productivity without spending any extra government money and without unduly saddling the private sector with "onerous tasks." The report attempts to provide a scheme for replacing unemployment with education and training programs which lead to permanent jobs. However, in order to accomplish this, a huge change in attitude by government and the Canadian people is required. In simplified terms, the sub-committee points out that it is more economic to pay people to work than to pay them not to work.

Here is the basic approach taken in the report[18]:

> In 1985, the average jobless but employable Canadian (let us call him Smith) had earned $14,040 per year in his last job in the private sector, according to the department of employment and immigration. This is not enough to allow Mr. Smith to live decently, but it is what the 1985 jobless had earned in their last job.
>
> Smith's $14,040 in wages brought the three levels of government some $4,800 in direct and indirect taxes. When Smith spent his $14,040 on goods and services, he provided income for the suppliers of these goods and services; the income of all these suppliers brought the three levels of government some $3,400 more in direct and indirect tax revenue, for a total government revenue of $8,200.

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18. Quoted from: Lamb, J. 1987. Much wishful thinking in Senate paper on jobs. Vancouver Sun, Dec. 8.

> This spending and respending of money is called the multiplier effect. Each dollar spent in Canada generates $1.70 in taxable economic activity.
>
> [With Smith on unemployment insurance, he] no longer adds to government revenue; he adds to government losses. Government pays him UIC or welfare which he spends, generating some tax revenue for governments; but that tax revenue is $6,424 in the deficit column of government ledgers. The total loss for government in going from plus $8,200 to minus $6,424 is $14,624 ....
>
> Further, not only does Smith cost us more when idle than working, but when he is jobless, we also lose the goods and services Smith produced when he was employed. Those goods and services were worth $14,040, of course, the amount he was paid to produce them.

This line of reasoning and the proposed approach to solving Canada's unemployment problem are particularly relevant to the social and economic situations of Indians and to the obvious role that forest development could play. Employing Indians in forest management not only provides the near-term benefits explained in the Senate report but it also enhances forest growth and environmental quality which will provide medium and long-term returns that most "make-work" projects cannot hope to duplicate.

C. ANALYSIS OF SOCIAL AND ECONOMIC BENEFITS AND COSTS FOR INVESTMENTS IN INDIAN FORESTRY

1. The Stuart Trembleur Lake Band

Using the Stuart Trembleur Lake Band and its forestry company, Tanizul Timber Ltd., as a case study, the socio-economic inputs and outputs related to the Band's forestry program are presented by reference group in the following tables:

- TABLE V-1 - The Band Itself;
- TABLE V-2 - The Provincial Government;
- TABLE V-3 - The Federal Government.

2. The Coldwater Band

Using the Coldwater Band as a case study, the socio-economic inputs and outputs related to the Band's forestry program are presented by reference group in the following tables:

- TABLE V-4 - The Band Itself;
- TABLE V-5 - The Provincial Government;
- TABLE V-6 - The Federal Government.

TABLE V-1

THE STUART TREMBLEUR LAKE BAND'S FORESTRY PROGRAM
--BENEFITS AND COSTS WITH REFERENCE TO THE BAND ITSELF

BENEFITS	COSTS
Band members are building financial equity in Tanizul (currently $1 million), which will help perpetuate the company's operations and likely lead to new business ventures.	Traditional pursuits and lifestyles are changing. Band members who rely on trapping or guiding are adversely affected by large-scale timber cutting, while access via logging roads increases tourism and hunting pressure on the Band's traditional (wilderness) lands.
The Tanizul forestry operation provides a focus and vehicle for economic development and employment training for the whole Band.	Relying on Tanizul, the Band Administration has significantly reduced its efforts in economic development and employment training, even in non-forestry fields.
Business opportunities have been created for and seized by some Band members (i.e., logging contractors).	Band members and officials are faced with the no-win situation of Band member employees of Tanizul negotiating and supervising production contracts with Band member-owned logging companies.
Role models are being developed for the Band's young people by Band members working for Tanizul and its contractors.	None apparent.
The employment level for the Band as a whole has been increased substantially as a result of jobs created by Tanizul's operations.	Social distinctions based on personal income levels and employment status are emerging. Unrealistic expectations for employment were created and some resentment has been voiced by unemployed Band members.
The training and employment of Band members by Tanizul has created opportunities for gaining employment elsewhere with other companies in the forestry industry.	Employment elsewhere could lead to weakened ties with the Band and its culture.

(cont'd)

Table V-1 (cont'd)

BENEFITS	COSTS
Tanizul is a profit-making, corporate venture.	Sacrifice of some jobs for Band members to ensure efficiency. Sacrifice of a full-scale intensive silviculture program at this stage of the company's development in order to finance road access and equipment purchases which will assure cashflow in the medium to long terms.
The Band's current level of unemployment averages 53%. It would be about 63% without the TFL jobs and probably higher because Tanizul's job creation/training projects would also be eliminated with little opportunity for Band sponsorship to fully replace them.	None apparent.
The Band's average level of personal income has increased substantially since Tanizul began operating.	None apparent.
The success of Tanizul Timber Ltd. has helped to develop a higher degree of pride within the Band itself and a greater measure of respect in the local region's business and social circles.	None apparent.
The economies of local (non-Indian) communities and B.C. as a whole have been stimulated by Tanizul's operation.	About 85-90% of the economic outputs from Tanizul's operation accrue to society as a whole, not to the Band.
Opportunities are being created for secondary and indirect economic activity to accrue to the Band (e.g., public works projects such as roads and bridges are being done by Tanizul instead of outside contractors).	None apparent.

TABLE V-2

THE STUART TREMBLEUR LAKE BAND'S FORESTRY PROGRAM
--BENEFITS AND COSTS WITH REFERENCE TO THE PROVINCIAL GOVERNMENT

BENEFITS	COSTS
Any corporate entity would have been required to operate the TFL the way Tanizul has, but only Tanizul could have brought the Band's Reserves into the TFL. Earlier in this report, it was estimated that these Reserves as part of the TFL have added the equivalent of $265,000/year of Gross Domestic Product (in 1985 dollars) to the B.C. economic in perpetuity.	None apparent.
Local control of land use and management of the environment on the TFL area by people who are familiar with it and who actually live on it.	Possible stimulation of the Band's land claims efforts.
Stimulation of the local (Fort St. James area) economy, as opposed to some of the economic spin-offs being absorbed by the Prince George area if one of the other bidders had got the TFL.	None apparent.

TABLE V-3

THE STUART TREMBLEUR LAKE BAND'S FORESTRY PROGRAM
--BENEFITS AND COSTS WITH REFERENCE TO THE FEDERAL GOVERNMENT

BENEFITS	COSTS
Federal job creation and training programs have provided 90 Band members with 360 person-months of work experience and training over five years. For a few of these Band members, this experience/ training has led to jobs with Tanizul's contractors. So far, only one or two of the participants have obtained a forestry job outside of TFL 42.	The federal funding to "create" this work and training was $290,000 or about $800/person-month.
Tanizul's operations have produced about 80 direct jobs, 45 full time and 35 part time. This equates to roughly 400 person-months of work per year, with 50% going to Native People. This level of employment would have occurred no matter what company had acquired the TFL. However, Band members would not likely have obtained their current level of employment on the TFL.	Federal grants to the Band and Tanizul (excluding job creation/ training subsidies) totalled $1.2 million for the six years ending in the 1986-87 fiscal year. This represents an average cost of $15,000 per job created (full or part time) for all 80 jobs, or $30,000 per job for Natives only. INAC officials indicated that they expect to spend no more than $35,000 to create a private sector job. Put another way, the federal grants to Tanizul have averaged $1,000/Native job/month) versus $800/job/month for a job creation/ training "job"). It should be pointed out that this $1.2 million represents start-up assistance, not an ongoing level; plus some of this money has gone towards setting up a sawmill.
Without the Tanizul forestry jobs, the level of UIC and Social Welfare payments to the Band would increase by about $130,000/year (or by about 22% from the current level of $600,000/year).	Excluding job creation/training subsidies, federal government contributions to Tanizul have averaged $186,000/year so far.

(cont'd)

Table V-3 (cont'd)

BENEFITS	COSTS
The granting of a special federal timber licence on the Band's Reserves has relieved INAC of its responsibilities for the Band's forest lands and has granted the Band its wish for control of its lands.	The granting of the special federal timber licence on the Band's Reserves allowed Tanizul to acquire the TFL from the province. But the tax-free status on Tanizul cost the federal government the corporate income tax it would have collected from a non-Indian owned company.
The success of Tanizul and the part that the federal government is playing in that success could be used as a demonstration or role model for other Bands with similar opportunities.	None apparent.

TABLE V-4

THE COLDWATER BAND'S FORESTRY PROGRAM
--BENEFITS AND COSTS WITH REFERENCE TO THE BAND ITSELF

BENEFITS	COSTS
The Band and its members are using federal job creation and training programs to train silvicultural workers, enhance the range resources on the Reserves and improve the future yields of the forests on the Reserves.	None apparent as far as the Band is concerned.
The Band is currently managing and conserving its forest and range resources while establishing the infrastructural foundation for future economic development through education, training and setting up sources of venture capital.	The only apparent "cost" is the delay in fully exploiting the Reserves' forests until they are in full production and a Band member-owned company is ready to carry out the forestry operations rather than the Band itself, with secondary processing of the timber involved.
Seasonal unemployment of Band members is offset by forestry job creation/training projects.	None apparent except that it would be better to have the silviculture and range enhancement done at a proper wage level rather than at UIC rates which sometimes can lead to less than normal productivity and quality.
The Band's benefit/cost analysis of juvenile spacing (thinning) and range enhancement of its young forests indicates a 50% increase in tree growth rates and a substantial increase in grazing capacity.	The cost of juvenile spacing and related range enhancement requires a 90-year payback period.

TABLE V-5

THE COLDWATER BAND'S FORESTRY PROGRAM
--BENEFITS AND COSTS WITH REFERENCE TO THE PROVINCIAL GOVERNMENT

BENEFITS	COSTS
Any private or public entity would be required to operate the Band's newly acquired Woodlot Licence in the same way as the Band will (i.e., according to the stipulations in B.C.'s Forest Act). However, the Band has contributed some of its Reserves' forest land to the Woodlot Licence which increases the forest area under management in the province.	None apparent.

TABLE V-6

THE COLDWATER BAND'S FORESTRY PROGRAM
--BENEFITS AND COSTS WITH REFERENCE TO THE FEDERAL GOVERNMENT

BENEFITS	COSTS
Federal job creation/training programs have provided an average of 25 person-months per year of employment to Band members over the past decade or more. This federal support offsets the need to make UIC or Social Welfare payments to five Band members each year.	None apparent.
The current enhancement of the Band's forest and range lands through job creation/training programs will result in higher timber and forage yields and hence reduced unemployment and increased economic activity in the future.	None apparent.
The success of the Coldwater Band and the part that the federal government is playing in that success could be used as a demonstration and role model for other Bands with similar opportunities.	None apparent.

PART VI - COMMENTARY AND PROPOSALS

A. BACKGROUND

Using two representative Bands as case studies, the original purpose of this study was to evaluate and analyse the social and economic returns from Indian forestry programs and to demonstrate the offsetting, rather than incremental, nature of investments in long-term forest management relative to federal and Indian government spending on other economic development, health and social welfare programs involving Indians.

Due to the limited history of Bands implementing comprehensive, integrated forest management programs and the dearth of appropriate socio-economic information available on the Bands, it was impossible to make totally valid comparisons of the socio-economic situations before and after comprehensive forestry programs began. However, the study was followed through in order to draw attention to the difficulties themselves, to draw such conclusions as were possible, to develop an empirical framework for analysing the returns from Indian forestry programs, and to develop at least a modicum of baseline information and systems for future reference.

B. COMMENTARY

As indicated by this study and more broadly and clearly defined by a recent INAC report[19], "The vast majority of the Indian population lives on-Reserve in rural or remote areas .... This results in a population which is heavily dependent on the resource base of the Reserves and the limited economic and employment opportunities in the immediate vicinity. Significant improvements in the economic conditions of Indians in general can only come about with more complete and successful exploitation of the Reserve resource base and increased penetration of off-Reserve business and labour markets. (There is a) growing trend within the Indian 'sub-economy' in the number and range of Indian-owned and/or managed business/economic enterprises and related development institutions. These are providing an infrastructure and economic base which Indians are increasingly able to use to assert economic leadership, develop transferrable skills, access and deploy development resources, build confidence and experience, and co-ordinate economic and employment development efforts. (However, the) realization of the economic potential of many Indian communities depends heavily upon a number of social, cultural, political and environmental factors and conditions, including: the level of investment in community infrastructure, access to capital for plants and equipment, acceptance of the social

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19. An Overview of Economic Circumstances of Registered Indians in Canada, 1986.

and cultural implications of economic development, and availability of development support such as training assistance and business advisory services."

The widespread availability of government support programs for Indians has led to a "cycle of dependence" which also acts as a barrier to increased employment and economic development. Canada has not yet realized, as the Senate paper on unemployment and training points out, that it is more economic to pay people to work than to pay them not to work--in training and creating jobs, "only work works."

Forestry has been identified by Indian organizations at all levels as an economic and social development priority. The 1.3 million hectares of productive forest lands on Canada's Indian Reserves are the base for many renewable resources including forage, wildlife, timber, recreation, gathering, water supplies and fish. These forest lands have been severely mismanaged.[20]

In general, only a fraction of the overall economic and social returns from timber harvested from Indian lands accrues to the Indian People. This is due to:

- Shortage of trained Indian workers;
- The small number of Indian-owned logging and silvicultural contracting companies;
- The shortage of Indian-owned businesses to take advantage of the economic spin-offs from forestry activities;
- The almost total lack of Indian involvement in the wood products manufacturing sector.

This situation is beginning to change as Indian People become more interested and involved in managing their forest lands and as funding and technical support increases. But major constraints to improving the level of forest management on the Reserves and to increasing related socio-economic returns to the Indian People remain:

- The Indian Act and regulations provide no legislative framework for proper forestry;
- Indian and Northern Affairs Canada lacks policy, commitment and adequate staffing to fulfill its trust responsibility to Indian People in the area of forestry;

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20. For example, the commercial timber harvest from B.C.'s Indian lands diminished by 67% over the period 1977-87, and the forest management plans produced for 53% of B.C.'s Indian lands under the FRDA call for major rehabilitation work on virtually every hectare of immature forest on the Reserves.

- The cultural background of the Indian People limits their ability to enforce their resource management perspective in highly technical resource management situations. This in turn can lead to frustration, limited enthusiasm and reduced commitment on the part of some Bands;

- The amount of forest land per capita on the Reserves is too small to support the necessary employment and economic development, and this situation will be exacerbated by the current level of growth in the Indian population;

- Government job creation and training programs involving Indians in forest management have been inadequate and largely ineffectual due to numerous factors such as lack of continuity, inappropriate stipulations, and inadequate funding for training, wages, supervision and equipment.

A fundamental problem common to all government programs associated with Indian forestry is that these programs are rarely flexible enough to fully cover or allow support for multiple use of forest lands or non-traditional forestry practices. An example is the otherwise highly successful Indian Forest Lands component of the Canada-B.C. Forest Resource Agreement which excludes such forest land management practices as Christmas tree farming and range enhancement. This longstanding problem stems from the fact that the government's objectives in these programs rarely coincide with the Band's land-use priorities.

The studies of the Stuart Trembleur Lake Band's and the Coldwater Band's forestry programs indicate that the Bands themselves must initiate and develop their involvements in forestry if such involvements are to be successful. Government can greatly facilitate and speed up the process as well as enhance the chances of success but government cannot parachute comprehensive forestry programs onto the Bands expecting much real success. As pointed out earlier, government programs developed (usually in isolation) will inherently be at cross-purposes with Indian land-use and socio-economic priorities. The Bands must initiate and develop their own forestry involvement but government can help significantly by assisting in educating the Indian People about opportunities using success stories to verify potential.

C. RECOMMENDATIONS

1. As a start, the level of funding normally made available to Indian Bands for the myriad of federal (forestry) job creation programs should be reallocated on an annual lump-sum basis directly to the Bands themselves for administering. The Bands often administer education and other important programs, so why not forestry? These funds should no longer be earmarked for make-work projects. Rather, they should be available for "real"

jobs, "real" wages and Band-approved forestry rehabilitation projects.

2. Forestry job training funding should be made available in 5-year allotments (renewable every two years) to Bands with comprehensive forestry programs/plans. Forestry job training programs should be developed by the Bands themselves (with the help of Canada Manpower, INAC, CFS, training institutions, and/or provincial forestry officials as appropriate or required) so as to augment and support the Bands' social and technical forestry requirements and priorities.

3. INAC should be relieved of its day-to-day forestry involvement and responsibilities. Instead, a bilateral or multilateral agreement should be set up between the Government of Canada and the Indian People whereby Indian organizations would implement a community-based, comprehensive forest rehabilitation and manpower training program aimed at creating a self-sufficient Indian forestry sector within 10 years--technical support over that period to be provided, at the Bands' discretion, by a combination of Indian expertise, the Canadian Forestry Service, provincial forestry departments, and consultants/contractors. This approach is similar to the one in operation in the U.S.A. and would require the Indian People to nominate an agency or agencies of theirs to organize and control such a program.

4. The Indian Act and regulations need to be broadened to provide for forest management, not just harvesting.

5. Access to outside (off-Reserve) forest resources will be necessary to make Indian forestry fully successful due to the small land bases held by most Bands and the growing work forces coming on-stream. This will require provincial government support since the vast majority of forest lands in Canada are controlled by the provinces.

6. There is urgent need to provide for the ongoing collection and analysis of baseline social and economic data to produce statistics for use by the Bands in formulating their development plans. Right now, as amply proved in this study, there is little informational/statistical basis upon which to base socio-economic development and land-use decisions and programs.

7. A flexible yet standardized forest data and mapping system (computerized) is needed which will provide a basic data manipulation and planning tool for individual Bands as well as an umbrella data collection and management facility for regional and national planning.

8. As an adjunct to a large, formalized Indian forestry initiative, there is need for "life skills," entrepreneurial and small business management training to be coupled with venture capital

sources to provide for the establishment of the Indian-controlled, private sector companies which will be required to successfully implement such an initiative.

9. Organizations such as the B.C. Intertribal Forestry Association should be fully supported and encouraged.[21]

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21. Author's Note: It was pointed out by a reviewer (who is an Indian) of a draft of this report, "What we are talking about in this issue (of the returns from investment in forest management programs on Indian lands) is not numbers or dollars and cents (although these are important), but about revitalizing a way of life for a people who have had their heritage taken away. The only way that this will happen is from within, guided by people who have the skills, understanding and compassion to guide the Bands' leaders and members. An administrative liaison such as the B.C. Intertribal Forestry Association is a vital first step towards Indians becoming responsible for their own destiny."